



ABSTRACT OF THE DISCLOSURE

The discovery process comprises the device (10) generating messages (112, 120-126)
Messages are generated by a first device which messages together have the purpose of
identifying a predetermined number of devices which satisfy a test condition included in each
message. These messages are sent respectively to [[the]] on-line devices (12, 20, 26)
~~neighbouring~~ neighboring the first device [[(10)]]. To ensure that no more devices than
necessary are identified by the messages, each message includes a variable which is referred to
as a token bucket which indicates the number of devices to be discovered by the message.
Additionally, each message includes a unique identifier. When [[a]] one device (12, 20-26)
receives a discovery message sent from another device, it determines if it satisfies the test
condition and if so it sends an acceptance message to the originating device, decrements the
token bucket in the message and forwards on any remaining tokens to another ~~neighbour~~
neighbor. The process stops once all tokens have been disposed of in this way. If a message
reaches the end of a path without disposing of all of the tokens, the message is returned back up
the path to try different paths until eventually all paths have been tried or a restriction criterion
([[eg]]e.g., maximum permitted number of hops) is met whereupon the message is returned back
as a failed message to the originating device.